

9. The method of claim 8 wherein the internal mass storage is a hard disk drive.

sub d5)  
C3  
10. A method for managing a multimedia home network, comprising steps of;

(a) delivering public network protocol signals to the level of a home or business;

(b) imposing a bridge unit at the home or business between the public network and an internal high-frequency network with addressable clients, the bridge unit storing configuration for the internal high-frequency network; and

(c) addressing data from the public network to individual ones of the addressable clients via the bridge unit.

sub E7  
11. The method of claim 10 wherein, in step (d), the bridge unit comprises an internal mass storage apparatus, and at least a portion of data sent from the public network is stored in the mass storage apparatus.

12. The method of claim 11 wherein the internal mass storage apparatus is a hard disk drive.

#### REMARKS

This response is to the Office Letter mailed in the above-referenced case on December 06, 1999. The Examiner has rejected claims 1-4 under 35 U.S.C. 103(a) as being unpatentable over Humpleman (US 5,940,387)

hereinafter Humpleman. Claims 1-4 are also rejected under 35 U.S.C. 103(a) as being unpatentable over Corley et al. (US 5,838,683) hereinafter Corley in view of Humpleman. In response to the Examiner's rejection applicant has herein amended claims 1 and 3, and added claims 5 and 6 for examination. Applicant has provided the amendments and added the new claims to more particularly point out and distinctly claim the subject matter the applicant regards as being inventive, and to distinguish unarguably over the art of Humpleman and Corely cited and applied by the Examiner.

Claim 1 as amended herein recites:

*1. A multimedia data distribution system, comprising:*

*a home or business site having an existing asymmetric internal telephone wiring;*

*a distribution system distributing and delivering public network protocol signals from a public network to the level of the home or business;*

*an adapter unit connected to the distribution system and to the existing asymmetric internal telephone wiring; and*

*one or more converters connected to the existing asymmetric internal telephone wiring, each converter having an outlet for connecting to either a conventional single media [and] or a multimedia electronic device;*

*wherein the bridge unit drives the existing asymmetric internal telephone wiring according to a Local Area Network (LAN) protocol, translating the public network protocol signals to the LAN protocol by modulating the LAN signals onto the existing asymmetric internal telephone wiring, and each converter converts the modulated LAN signals on the*

*existing asymmetric internal telephone wiring to a form required by the connected single media or multimedia device.*

Claim 1 is rejected under 103(a) as being unpatentable over Humpleman. Claim 1 is also rejected under 103(a) as being unpatentable over Corely in view of Humpleman. Applicant has made amendments to clearly distinguish over the references cited and applied.

Applicant respectfully points out that claim 1 recites, as amended, a system applied to and incorporating an existing asymmetric internal telephone wiring at a home or business, driving the existing wiring as a LAN.

The patentable feature of applicant's invention over the prior art is the ability to receive the public network protocol signals, translate the signals to the hi-frequency modulated signals on the existing telephone wiring, and then convert the hi-frequency modulated signals to a form required by one of the single or multi-media devices on the network bus, **therefore negating the use of a hub type structure as taught in the prior art of Corely.** The art, including Humpleman, does not teach a system capable of operating on existing home or business telephone wiring. Also, the art does not teach to modulate the data network signals, since using simple point to point wiring, there is no requirement or incentive to do so. Although there is RF in his system, it pertains only to the TV signal bypass.

The Examiner states that Humpleman discloses a distribution system being connected based upon asymmetric star wiring (col. 5, lines 42-67 and col. 6, lines 12-27). This simply not so. Humpelman has a regular, symmetric star architecture (see fig. 2&3, symmetric hub 38, and its wiring to units 32, 20 and 40, which are all simple point to point wires, hence a

symmetric star). The only asymmetric component in Humpelman is the dotted line in Fig. 1, between 32 (cable interface) and 40 (set-top box STE-1). However as is stated, (col3, line 42/3), it is a separate wiring, that needs to be added OUTSIDE the normal wiring (34), as a bypass. The same goes for POTS (28, Fig1). Only functional control is through the digital network. The very fact that Humpleman requires a bypass (separate wiring) is a clear indication that his SYMMETRIC wiring does NOT lend itself to modulation of data, and there is no suggestion to do so.

Humpleman teaches that the switched hub 38 enables special treatment for the heavily asymmetric traffic by directly routing these cases from transmitter to receiver. This traffic is thus separated from the internal network 34 (col. 5lines 48-51). Humpleman specifically teaches at the top of column 6 that two separate direct circuits are depicted in Fig. 3. The network interface 32 that is coupled to ISDN network is directly connected through the direct circuit crossbar 44 to the personal computer 20 of the local peripheral network 15. Another separate direct circuit is provided by the circuit crossbar 44 between a different network interface unit 32 (coupled to hybrid fiber coax , for example) and the set top electronics 40 coupled to the television 12.

The asymmetry in applicant's invention pertains to the fact, that the hub has only ONE port to the network (as opposed to Humpelman or Corley), and that there can be junctions in segments between nodes, rather than multiple, point to point lines as in Humpelman (fig 3), connected to multiple, symmetric ports on the hub.

Typical existing networks for multimedia data distribution, as in Humpelman, are of a sort called system parallel, which requires duplication of hardware and data paths, resulting in high cost. The system of the present invention avoids such duplication and allows use of existing

telephone system wiring in virtually all cases, both in and to the house.

In applicant's invention separate connections, or bypasses are not needed. The bridge adapter unit in applicant's invention translates high-frequency modulated network signals for use in the asymmetric wiring system, and with the use of the converters at the peripheral point are essentially capable of providing home networking for single and multimedia electronic devices that may require a variety of communication protocols. Asymmetric star-wiring can be utilized in the existing home wiring structure wherein a new outlet (converter, electronic device) can be coupled to the existing wiring at essentially any point and for substantially any distance through the use of the bridge adapter translating signals. This is not point to point wiring as shown in the reference of Humpleman.

Applicant's invention incorporates a hub-less trunk, which works because of the use of high-frequency modulated network signals. Any type of high frequency modulation or direct digital connection could be used that is compatible with asymmetric star wiring (a.k.a. Christmas tree wiring). This also allows the bridge adapter unit to be added at almost any convenient point on the in-house bus.

The Examiner states that Corley discloses the invention substantially as claimed, including an interactive multimedia system that employs central and peripheral hubs that function to provide services to a plurality of clients of a call manager server.

In the art of Corely the communications network comprises a plurality of peripheral hubs coupled to a selected one of the first and second central hubs, each of the plurality of peripheral hubs having control of associated resources within each of the plurality of peripheral hubs, a selected one of the first and second manager subsystems capable of generating a request to a selected one of the plurality of peripheral hubs for

access to the resources associated with the selected one, the selected one granting the request only when the associated resources are available.

In applicant's invention a bridge adapter unit translates hi-frequency modulated network signals for use in the asymmetric wiring system, and with the use of the converters at the peripheral point are essentially capable of providing home networking for single and multimedia electronic devices that may require a variety of communication protocols without the use of a plurality of hubs as taught in the prior art.

Applicant believes that the combination of Humpleman and Corely, or just Humpleman alone clearly fails to teach or suggest a system capable of utilizing the existing asymmetric type wiring in home networks as taught ND claimed in applicant's invention. Therefore, the prior art fails to support a 103(a) rejection in regards to independent claim 1 as amended with the arguments presented above. Applicant respectfully requests that the 103(a) rejection be withdrawn as the newly amended claim 1 is clearly patentable over the references of Humpleman and Corely. Claim 2 is patentable at least as depended from a patentable claim.

Claim 3 as amended herein recites:

*3. A home network system, comprising:*

*an adapter unit having an inlet port for public network protocol signals and connected to an existing asymmetric internal telephone wiring of a home or business; and*

*a converter connected to the existing asymmetric internal telephone wiring, the converter having an outlet adapted for connecting to either a conventional single media or a multimedia electronic device;*

*wherein the adapter unit translates between a public network data*

*protocol at the inlet port and a Local Area Network (LAN) data protocol using hi-frequency, modulated network signals on the existing asymmetric internal telephone wiring, and manages the existing asymmetric internal telephone wiring as a non-isochronous type bus, and the converter converts signals on the existing asymmetric internal telephone wiring to a form required by one of the single media and multimedia electronic devices.*

Claim 3 is rejected by the Examiner using the same reasoning provided for claim 1 above. Therefore, claim 3 is patentable using the same reasoning provided on behalf of claim 1 above. In addition Humpleman clearly teaches that two ports are required to connect to the home network 10, one for network interface unit 32, and one for the set-top electronics 40. A bypass is provided in certain embodiments to link the analog signals across to the audio/video circuits of the set-top electronics 40. The system of the present invention avoids such duplication and allows use of existing telephone system wiring in virtually all cases, both in and to the house. Claim 3 is clearly patentable over the prior art of Humpleman and Corely as argued above. Claim 4 is patentable at least as depended from a patentable claim.

Applicant has herein added 8 new claims for examination wherein patentable features include configuring the home network from network level and use of internal mass storage, which features are not shown in the references.


As all of the claims standing for examination as amended have been shown to be patentable over the art of record, applicant respectfully requests reconsideration and that the present case be passed quickly to issue. If there are any time extensions due beyond any extension requested and paid with this amendment, such extensions are hereby requested. If there are any fees

due beyond any fees paid with the present amendment, such fees are authorized to be deducted from deposit account 50-0534.

Respectfully Submitted,

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